

## NEW COMBINATIONS IN *POTTIA STARKEANA*

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Two new combinations in the moss species *Pottia starkeana* are made here. A key to infraspecific taxa within this species is also included.

These combinations are the result of my research on the taxonomy of the 'Conostegiae', a group of *Pottia* species characterised by having erostrate opercula. This research project, financed by an S.R.C. studentship, was carried out in the Botany Dept of Oxford University, and the findings were submitted as a D. Phil. thesis.

***Pottia starkeana*** (Hedw.) C. Müll., Synops. Musc. Frond. 1:547 (1849).  
subsp. ***minutula*** (Schleicher ex Schwägr.) Chamberlain, **comb. et stat. nov.**

Syn.: *Gymnostomum minutulum* Schleicher ex Schwägr., Sp. Musc. Suppl. 1(1):25 (1811).

*G. davallianum* Sm. in Ann. Bot. 1:577 (1805)?

*Pottia minutula* (Schleicher ex Schwägr.) Fűrnr. in Flora 12(2):25 (1829).

*Tortula starkei* Lindb. var. *davallii* Lindb., Musci Scand. (1879).

*P. rufescens* (Schultz) Fűrnr. ex Warnst. var. *angustifolia* Warnst. in Hedwigia 58:137 (1917), nom. illegit., quoad spec. excl. syn.

*P. davalliana* (Sm.) C. Jens., Danmarks Mooser 2:348 (1923).

subsp. ***conica*** (Schleicher ex Schwägr.) Chamberlain, **comb. et stat. nov.**

Syn.: *Gymnostomum conicum* Schleicher ex Schwägr., Spec. Musc. Suppl. 1(1):25 (1811).

*Pottia conica* (Schleicher ex Schwägr.) Fűrnr. in Flora 12(2):9 (1829).

*P. minutula* (Schleicher ex Schwägr.) Fűrnr. var. *conica* Schimper, Bryol. Eur. 18-20: 8 (1843).

*P. macowaniana* C. Müll. in Hedwigia 38(1):98 (1899).

*P. arabica* C. Müll., Gen. Musc. Frond. 389 (1901), nomen nudum.

*P. algiriensis* Warnst. in Hedwigia 57:83, f. 18 (1915).

*P. salina* Warnst. in Hedwigia 57:83, f. 19 (1915).

*P. microphylla* Warnst. in Hedwigia 58:141, f. 57 (1917).

*P. rufescens* Schultz var. *conica* (Schleicher ex Schwägr.) Warnst. in Hedwigia 58:137 (1917).

*P. verrucosa* Warnst. ex Rehn in Hedwigia 58:140 (1917).

*P. texana* Wareham in Grout, Moss Flora of N America 1:201 (1936).

*P. mutica* Vent. var. *salina* (Warnst.) Podp., Consp. 231 (1954).

*P. zealandioides* Dixon & Sainsb. in Trans. Roy. Soc. New Zeal. 75(2):169-186 (1945).

As I have been unable to locate the type of *Gymnostomum davallianum*, and since the type description is very poor, some doubt remains as to the

application of the name. I have therefore preferred to typify this subspecies with reference to *G. minutulum* Schleicher ex Schwägr. of which I have seen authentic material (collected by Schultz in Switzerland in 1814).

*Pottia rufescens* Schultz var. *angustifolia* Warnst. is a superfluous name since Warnstorf cites *P. minutula* Schimper var. *rufescens* (Schultz) Schimper as a synonym. The latter is a combination based on *G. rufescens*, the basionym for *P. rufescens* (Schultz) C. Müll. var. *rufescens*. Therefore var. *angustifolia* is indirectly typified by the same type as is var. *rufescens*. Quite apart from this Warnstorf has probably misinterpreted *G. rufescens* Schultz; the type description clearly describes it as having a rostrate operculum, which would exclude it altogether from *P. starkeana*.

*Key to subspecies and varieties of Pottia starkeana*

1. Spores with a regular or tuberculate outline, without projections
  2. Peristome 60–190 $\mu$ , with acute, well-developed teeth
    - subsp. *starkeana*
    - var. *starkeana*
  2. Peristome rudimentary or absent, if exceeding 60 $\mu$  then with fused or truncate teeth
    - var. *brachyodus* C. Müll.
1. Spores regular in outline, with projections at least 1 $\mu$  long
  3. Capsule widest at the mouth; leaves narrowly lanceolate with long-excurrent nerves
    - subsp. *minutula* (Schleicher ex Schwägr.) Chamberlain
  3. Capsule widest near the middle; leaves narrowly lanceolate to ovate with muticous to long-excurrent nerves
    - subsp. *conica* (Schleicher ex Schwägr.) Chamberlain